PhD Guide
Graduate School of Science and Engineering
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Editorial Note: The contents of this guide are subject to change. The most recent version will always be made available online at our website.
One of the greatest scientists of modern times, Albert Einstein, once quipped that one should never stop questioning. I agree. Curiosity, creative thinking, an open mind, courage and a great deal of hard work are key attributes of any successful scientist.

As a PhD student you will be challenged, inspired and trained for four years, resulting in what will most likely be the crowning point of your scientific career up to that point; a dissertation that will change and shape the scientific debate. Working on a PhD degree is about more than delivering a manuscript, though. It is about planning your time and managing your finances, about working with other team members and your supervisors, about being independent and taking your project to completion. In short, it is about developing your talents to become a fully-fledged scientist.

To foster the acquisition of these attributes, the Faculty of Science and Engineering has established the Graduate School of Science and Engineering. Our goal is to facilitate high-quality education, training and supervision as well as provide overall guidance and support in gaining a PhD. This booklet gives an overview of a PhD programme at the Graduate School, information on where to go in case you have questions, and more. All this is intended to enable you to successfully complete your project; from your first day in the Faculty to the moment the beadle calls Hora Finita! I wish you a fruitful, inspiring and enjoyable time in Groningen.

Prof. Dr. Petra Rudolf
Director, Graduate School of Science and Engineering
1. A PHD AT THE GRADUATE SCHOOL OF SCIENCE

The Faculty of Science and Engineering (FSE) is one of ten faculties of the University of Groningen. Within the faculty, the Graduate School of Science and Engineering (GSSE) is responsible for organizing both the MSc and PhD programmes.

1.1 THE GRADUATE SCHOOL

A PhD degree programme in the sciences involves rigorous training, designed to prepare PhD students for a career in research or a related field, whether inside or outside of academia. The Graduate School of Science and Engineering hosts over 900 PhD students working in a wide array of scientific fields, ranging from astrophysics to nanoscience, and from artificial intelligence to conservation ecology.

The purpose of the Graduate School is to create a stimulating environment for the faculty’s graduate students and to ensure a uniformly high level of graduate education that meets the highest international standards. Its mission is to organize high-quality education, training and supervision for graduate students from FSE, thereby helping them to mature into knowledgeable, self-reliant and responsible researchers who function well in science and society.

In addition to administrative tasks like registering new candidates, the Graduate School provides a number of services to its PhD students. For instance, by means of the website and regular newsletters, the GSSE ensures that PhD students have access to important, relevant and up-to-date information on policies and procedures, upcoming summer and winter schools, and available courses.

The Graduate School also offers a varied and growing training programme, primarily focusing on so-called transferable skills (skills which will improve the PhD student’s employment opportunities and future career performance - see chapter 2.3). Many of these courses have been developed with the help of or in response to requests from PhD students.

In terms of career services, the Graduate School periodically organizes events, labelled “Your next step in...”. By means of lectures and workshops, these events aim to inform PhD students of possible career paths and how best to achieve their career goals.
The Graduate School also assists with and advises PhD students about the procedures regarding their thesis defence (see chapter 4) and acts as person of contact for issues of the PhD student that relate not directly to research.

THE GRADUATE SCHOOL COMMITTEES AND STAFF

The Graduate School of Science and Engineering has a Director, who chairs the Graduate School board. In addition to the Director, the Graduate School board consists of four faculty members and two advisory student-members (one PhD student and one MSc student).

In addition to the board, the Graduate School has an Admissions Committee, which decides on the admission of PhD students to the PhD programme. PhD students admitted to the PhD programme are automatically admitted to the Graduate School.

In its daily operations, the Graduate School is run by a coordinator and support staff. Contact information for the support staff, their working hours, and their respective duties and responsibilities, are available online.

Hora Finita

Hora Finita is the online PhD management system of the University of Groningen, in which all PhD projects are registered, monitored and processed from start to finish. It is used, consulted and updated by the Graduate School, the research institutes, the supervisors and the PhD students themselves. PhD students can only access their own files in Hora Finita. Individual privacy is guaranteed, so each of the parties mentioned has specific rights and duties with regard to accessing, adding or amending data.

Hora Finita gives PhD students up-to-date insight into the progress of their PhD project. Basic PhD project details as well as, for instance, a copy of the Training and Supervision Plan (TSP – see chapter 2.2) are uploaded to Hora Finita at the start of all PhD projects and can be accessed and viewed instantly.

Hora Finita is also used to schedule all Result and Development interviews, with timely reminders sent to the PhD student and the supervisors. Upon completion of the interview, the interview forms are stored in Hora Finita, after which the PhD student can access them at all times (see chapter 2.5).
Moreover, the PhD student uses Hora Finita to record all his/her training activities. New training activities can be registered at all times. Hora Finita will subsequently notify the primary supervisor to approve these activities and any related credits (see chapter 2.3). Finally, all steps that are necessary for a PhD defence to take place are digitized in Hora Finita.

The PhD defence process is put in motion the moment the PhD student uploads his/her manuscript to Hora Finita. Once it has been digitally approved by the supervisors, all parties involved in the thesis defence – from the members of the Assessment Committee to the PhD degree registration office – will be informed by Hora Finita about their respective duties and the (online) actions required. Chapter 4 provides full details on the organization of PhD ceremonies.

In short, Hora Finita is used for a multitude of applications and plays a central role in all PhD projects, from start to finish. PhD students log on to Hora Finita with their P-number and password.

**1.2 CONDUCTING RESEARCH**

Each PhD project in the Graduate School of Science and Engineering occurs in an organizational setting in which several parties contribute to the project’s overall quality. The following three are most relevant for PhD students:
THE RESEARCH INSTITUTES
Each PhD student works as part of a research group composed of one or more professors working on related scientific topics. The research group is the PhD student’s scientific home during the four-year PhD research period. Research groups organize regular events, such as seminars and journal clubs, to promote interaction among their members. They also provide much of the technical and personal assistance for PhD projects.
Each research group belongs to one of the faculty’s research institutes. Each institute is responsible for determining how funding should be distributed, both in terms of purchasing and maintaining equipment and allocating PhD positions. Research institutes also organize a number of events and specialized courses of direct interest to PhD students.

All research institutes employ a staff member who functions as a PhD coordinator. A list of PhD coordinators can be found on the GSSE website. Each PhD coordinator serves as a local resource for the implementation of procedures and can also advise about training opportunities organized locally or further afield. He/she is available to discuss private matters that may affect the PhD student’s functioning or completion of the thesis. If necessary, the PhD coordinator and the PhD student can agree that such matters may be handled confidentially until there is an agreement to include others in the discussion. The Graduate School coordinator can serve a similar function and may act as a contact person should difficulties arise.

THE RESEARCH SCHOOLS
Research schools are local or national organizations for graduate education and research, focusing on a particular research topic. They organize specialized courses, summer schools, etc. Research schools constitute an important source of training activities for PhD students. The Graduate School website provides an overview of research schools. PhD students can also inquire with their supervisors for further information about finding relevant research schools.

1.3 TYPES OF PhD STUDENTS
Differences in PhD positions occur as a consequence of the type of funding that supports the project. The two most common types of positions are PhD students with a formal appointment at the UG (employed PhD students) and PhD students...
who are funded by a scholarship from the UG and/or another organization (PhD scholarship students). The PhD student’s rights and duties may differ depending on the type of PhD position; in particular, employed PhD students have some rights and duties that do not apply to other PhD students. PhD students who differ in their contract status nonetheless pursue similar types of research projects and do so in a similar time-frame. The GSSE assists and handles administrative issues for all PhD students, regardless of their status.

PHD STUDENTS EMPLOYED AT THE RUG
Employed PhD students are officially appointed to the University by the department of Human Resources (HR). Their appointment is according to the Dutch collective bargaining agreement (collectieve arbeidsovereenkomst, CAO). These employees receive a salary from the UG and as such they are subject to Dutch tax legislation. They are required to spend part of their time teaching (10%). The salaried status of employed PhD students entitles them to several types of social benefits, such as unemployment benefit, pension funds, etc.

Within the faculty, an HR assistant is assigned to handle all general questions by employed PhD students pertaining to the conditions of their employment. In addition to the HR assistant at FSE, the HR Information Desk of the University informs all new employed PhD students about working at the University, as well as about living in the Netherlands. The HR Information Desk is located in the Academy building, West Wing – office 34, and is opened Tuesdays, Wednesdays and Thursdays from 08.30-16.00.

PHD SCHOLARSHIP STUDENTS
PhD scholarship students receive a scholarship rather than a salary. The scholarship may be granted by the University or by a funding organization, usually from the home country of the PhD student. PhD scholarship students who started their project after 1-9-2016 are typically part of the University’s PhD Scholarship Programme.

OTHER PHD STUDENTS
Not all PhD students fit in the previous two categories. Some PhD students are not employed by the UG but are instead funded by another organisation, such as FOM (Foundation for Fundamental Research on Matter) or the Hanzehogeschool Groningen. PhD students may also choose to fund their own projects.
EXTERNAL PHD STUDENTS
Some PhD students are registered with the GSSE but do their research at
another location and spend little time at the University of Groningen. Such
“external” PhD students are typically self-funded or funded by their employer.
External PhD students often complete their project in a different time-frame and
for practical reasons do not follow the GSSE training programme.

1.4 PRACTICAL INFORMATION
RESIDENCE PERMITS AND VISA
Non-EU PhD students who pursue a PhD in the Netherlands are subject to Dutch
immigration law. The staff of the International Service Desk (ISD) specialize in
Dutch immigration law. The ISD is located in the Academy Building (Broerstraat
5) and is responsible for all visa and residence permit applications for
prospective and current international PhD students. Questions relating to visas,
residence permits or the extension of residence permits should be addressed to
the ISD. The staff of the Graduate School can serve as a first point of contact
when needed.

Residence permits are only valid for a specific period of time, under specific
conditions. PhD students are required to be aware of these conditions and must
inform the ISD immediately in all circumstances that directly influence the
legitimacy of the permit (i.e. sudden loss of income, too little monthly income,
loss of the residence permit, no insurance, or in case criminal antecedents may
be involved).

Non-EU PhD students who need to go abroad for an extended period, i.e. longer
than one month, are strongly advised to inquire with the ISD whether this
influences the legitimacy of the residence permit.
The University reimburses the costs of the initial visa and residence permit for
international PhD students. The University will not cover the costs of residence
permits for family members who wish to move to the Netherlands with the PhD
student, or costs involving the extension of a residence permit.

The Dutch immigration office offers students the right to stay in the Netherlands
for up to one year after their graduation. This so-called search year (“zoekjaar”) is
meant for you to find a job within the Netherlands. The fee for applying for
the search year is 600€. If you plan a search year, be sure to apply timely as the procedure may take several months. You may contact the ISD for more information about the search year.

TAXES
The taxation rules and regulations vary according to the type of PhD position held:

1. Employed PhD students receive a salary from the University and as such are subject to Dutch tax law. For the purposes of the tax return, the University annually issues a salary statement to this particular group of PhD students. Non-Dutch employed PhD students who have general questions on taxation, health insurance or legal issues are advised to contact the HR Information Desk.

2. PhD scholarship students who started their project after 1-9-2016 and receive a scholarship from the University are also subject to Dutch tax law. Whether they receive an invoice from the Tax office or not is dependent on (changes to) the personal circumstances of the PhD student, such as marriage or age. PhD scholarship students can apply for rent, healthcare and childcare allowances during their stay in the Netherlands. Students must ensure that they meet the applicable conditions before applying for such allowances. The tax authorities may demand repayment of allowances received in error even after many years have passed, regardless of whether the person still lives in the Netherlands. This can amount to thousands of euros. The UG and the UMCG accept no responsibility in these instances. For more information, visit http://www.belastingdienst.nl/toeslagen/.

3. PhD students who receive no salary or funding from the University and who are not employed by another Dutch organization are usually exempt from paying taxes in The Netherlands and excluded from contributing an income-related levy under the Health Insurance Act. This includes PhD students who receive a scholarship from their home country that is not topped-up by the University, who receive an Erasmus Mundus scholarship, or who fund themselves. However, changes to their personal circumstances, e.g. due to marriage, might lead to a tax assessment. These PhD students are not eligible for rent, healthcare or childcare allowances from the tax office and should not apply for them.

Note that any PhD scholarship student who has ever had or obtains employment in the Netherlands may receive a retroactive tax assessment on the total
scholarship received. The ISD should be approached for detailed advice on this matter.

The Graduate School of Science and Engineering cannot be held responsible or liable for any mistakes or consequences arising from the use of information provided above.

HEALTH INSURANCE
All PhD students are required by law to have health insurance during their stay in the Netherlands. Employed PhD students are informed by the department of Human Resources about applying for statutory basic health care insurance (basiszorgverzekering). PhD scholarship students who started after 1-9-2016 and receive a scholarship from the UG also need take out statutory health care insurance.

Foreign PhD scholarship students who are under 30, do not receive a scholarship from the University and are not employed in the Netherlands can take out private health insurance for international students, which is less expensive than statutory health care insurance.

It is the responsibility of PhD students to make sure they are insured. Before purchasing insurance, PhD students are advised to carefully consider what the insurance in question does and does not cover, especially in case of private health care insurance. The ISD should be contacted in case of further questions about health insurance.

CONFIDENTIAL ADVICE
PhD students may face problems that do not directly relate to their research but do affect their work (and possibly even their private life). This can vary from problems with a supervisor, from suspicion of scientific malpractice to experiences of sexual harassment. Depending on the situation, a number of people or UG organizations can be consulted in confidence for help, advice or further counseling. The Graduate School website provides an overview of possible situations where (confidential) advice is required or desirable and the people and/or departments PhD students can refer to.

ACADEMIC INTEGRITY
The University Board expects all those involved in academic teaching and research to hold themselves personally responsible for preventing and drawing
attention to academic misconduct. The generally accepted standards for the execution of professional academic research must be met at all times.

The regulations on academic integrity can be found in the Dutch Code of Conduct for Academic Practice (Nederlandse Gedragscode Wetenschapsbeoefening, VSNU 2005, amended in 2012) and the University of Groningen Regulations for the Protection of Academic Integrity. Questions and complaints about academic integrity in FSE can be discussed in confidence with the faculty’s advisor for academic integrity, Prof. O.P. Kuipers.

DATA STORAGE
In accordance with University policy, all research institutes in the FSE have specific guidelines and rules respecting research data storage. These are outlined in the institute’s Research Data Management Plan (RDMP), which has been implemented to ensure transparency and storage and access rules for raw research data. Before the start of their research, PhD students should know how and where to store raw data, as well as be aware of the people who will have access to it.

HEALTH, SAFETY AND THE ENVIRONMENT
Everyone who works or studies at FSE will come into contact with matters that involve safety, health, and the environment. The national rules and regulations concerning health at work have been set down in the Working Conditions Act. The Environmental Protection Act covers regulations concerning the environment. The consequences of these regulations for PhD students and staff members of FSE are described in various factsheets. These documents contain safety instructions, environmental regulations, house rules, and rules for general behaviour. PhD students must ensure that they are familiar with these rules. They can be found on the intranet site for employees at FSE.

RESEARCH ON LIVE SUBJECTS
In the Netherlands, as in other European countries, experiments on vertebrate animals are subject to a rigorous review procedure before they can be conducted. Permission to conduct these experiments is given only after approval by the Institutional Animal Use and Care Committee. Researchers must follow a course and receive certification before they are permitted to conduct animal experiments. For studies involving human subjects, a Medical Ethical Committee (METc) must approve proposals. More information about research on live subjects can be found online.
1.5 ORGANIZATIONS REPRESENTING PHD STUDENTS

THE PHD COUNCIL AT FMNS
The PhD council is composed of PhD students from FSE; it looks after the interests of all PhD students at this faculty and is represented in the Graduate School board. Moreover, the council organizes social activities such as the monthly cocktail get-together (borrel). More information can be found on the GSSE website.

THE PHD SOUNDING BOARD
The Graduate School of Science and Engineering has a sounding board comprised of PhD students from all research institutes at FSE. The PhD sounding board gives solicited and unsolicited advice to the PhD council and the Graduate School in PhD-related issues. There is at least one representative for each research institute in the PhD sounding board. PhD students can contact the members of the PhD sounding board with advice or suggestions for the Graduate School. The members of the PhD sounding board will, in turn, ask for the input of PhD students on PhD-related issues. An overview of all sounding board representatives per institute is listed on the Graduate School website.

GRIN
The Groningen Graduate Interest Network (GRIN) is the association of PhD students at the University of Groningen that acts as an information network and as representative of all PhD candidates regarding legal and administrative issues. GRIN can be contacted via www.gringroningen.com/ or via e-mail: contact@gringroningen.com.

GOPHER
The Groningen Organization for PhD Education and Recreation (GOPHER) organizes educational or recreational events on a weekly basis. Their goal is to provide all Groningen PhD students with an established, welcoming community where they can network and gain important academic and professional knowledge and skills. Information about joining, events, or activities can be obtained by contacting the board at gopher@rug.nl or by joining their Facebook group (www.facebook.com/groups/gopher.groningen). If you are a new PhD student at the University of Groningen, you can find additional practical information on GOPHER’s website (www.gophergroningen.com).
2. SUPERVISION AND TRAINING

2.1 SUPERVISION

In the Dutch system of higher education, the primary thesis supervisor (promotor) bears the responsibility for guiding the PhD student’s scientific development, ensuring together with the PhD student that the thesis project is successful. The primary supervisor must be a professor (endowed with the ‘ius promovendi’) at FSE. In addition to the primary supervisor, a second supervisor or co-supervisor (co-promotor) must be assigned.

The role of the thesis supervisor is to:
- Guarantee the availability of funding, facilities and support staff that is needed to complete the project.
- Have regular meetings with the PhD student and provide the student with constructive feedback regarding his/her work and progress.
- Provide training in how to present results and write papers.
- Review manuscripts, abstracts and other texts within a reasonable period of time.
- Help the PhD student keep track of the progress of the research project by providing an appropriate amount of direction and structure. The project should be finished (and the dissertation written) by the end of the PhD student’s appointment or stipend.
- Actively recommend courses and conferences for the student to attend and support the PhD student with completing his or her training programme.
- Share his or her knowledge, experience and professional network with the PhD student.
- Provide council for the next career step. In case the PhD student wants to stay in academia, teach him or her to write successful proposals and find funding.
- Help the PhD student become an independent researcher, which is the ultimate goal of the PhD programme.

2.2 TRAINING AND SUPERVISION PLAN

The Training and Supervision Plan (TSP) is created at the start of the PhD project and serves as a contract between the PhD student, his/her supervisors, and the GSSE. The TSP addresses expectations for research and educational activities and outlines the PhD student’s research project and training programme. It does
not represent a detailed outline of the project’s scientific content; rather, the purpose of the TSP is to give the PhD student a means to mark progress, and a realistic idea of what his or her own timeline will look like over the course of the four-year project.

The TSP should be amended and updated over the course of every project. In fact, the version uploaded to Hora Finita at the start of a PhD project is only preliminary; the plan actually starts to represent the activities of the PhD student when it is amended at the six-month Result and Development interview. When necessary, further amendments to the TSP should be made after subsequent Result and Development interviews.

2.3 TRAINING PROGRAMME

OVERVIEW AND MINIMUM REQUIREMENTS

In accordance with University regulations, every PhD student conducting a four-year research project (with the exception of external PhD students) is expected to complete a training programme of 30 ECTS credits. The training programme is a highly individual aspect of a PhD project. Two training elements are mandatory for all PhD students. First, all PhD students should attend the introductory event that is organised by the Dean of Graduate Schools. The event offers a variety of activities, giving an impression of the University and its facilities and a taste of the courses and other support activities offered by the UG Graduate Schools. Second, all PhD students are required to attend the course on scientific integrity that is organised by the GSSE. In addition, PhD students are expected to spend at least six credits on courses that concentrate on the acquisition of transferable skills (i.e. general skills that can be transferred to future employment settings). Most of the courses that are offered by the GSSE are directed at developing transferable skills.

PhD students may also take courses that are offered by parties other than the Graduate School (e.g. research schools, the University’s Language Centre, or courses from Master’s degree programmes). Information about courses offered by the Graduate School, research schools, or other UG departments like the Language Centre can be found on the Graduate School website.

Every PhD student who has fulfilled the training requirements will receive a Graduate School certificate at the thesis defence.
CONTENT OF THE TRAINING PROGRAMME

Training elements will typically fall within one of several categories.

1. **Transferable skills** – These are skills you acquire and transfer to future employment settings. Common examples include interpersonal, communication, and organizational skills. Most of the GSSE courses focus on transferable skills, such as our courses Presentation Skills, Publishing in English, Teacher Training, Science Communication, and English Conversation for Academics.

2. **General research techniques** – These are skills that may be required to work carry out a particular type of research. The GSSE offers a number of courses on general research techniques, particularly on statistics. Courses on research techniques are also offered by various departments and organizations, either within or outside of the University (e.g. courses on Radiation safety or Laboratory animal science).

3. **Discipline-specific courses** – All employed PhD students have to carry out certain teaching tasks, like teaching tutorials or supervising research projects for a total of 640 hours throughout the 4 years at the GSSE. PhD scholarship students may gain experience in teaching through the teaching training courses for PhD students, which also contain a practical part in front of the class. As carrying out these tasks helps acquire valuable transferable skills, they may also be part of your training programme. (More information about teaching can be found below.)

4. **Conferences and workshops** – These courses are typically organized by research schools and research institutes. PhD students can also obtain credits for attending MSc courses that are relevant to their research. They are allowed to take the final exam for such courses but are not required to do so to be eligible for credits. More information on how to register for MSc courses can be found on the Graduate School website.

5. **Other activities** – PhD students are encouraged to present their work at national and international meetings, and may receive credits for such activities.
6. Professional service and other activities – Credits can also be obtained for organizing symposia, workshops, journal clubs or scientific debates, for participating in a master class or international summer school, for interning in another lab, etc. For instance, being part of the FSE PhD council, GRIN or GOPHER, hosting an invited speaker or a master class, or planning a local conference are also recognized training activities.

AWARDING CREDITS
PhD students are awarded ECTS credits for the activities that they carry out in the context of their training programme. The number of training credits per activity is subject to approval from the primary supervisor, so PhD students should discuss how many credits they will get for an activity beforehand with their supervisors.

Courses offered by University organizations or research schools are typically assigned a standard number of credits. The number of credits given for other training activities might be more difficult to determine. Generally speaking, the rule that 1 ECTS credit counts for 28 hours of training should be followed. As this rule is difficult to apply in certain cases, the GSSE website includes a list that for different types of activities gives the recommended number of credits. The rule should also not be used for the teaching activities of employed PhD students; as teaching is part work and part training for them, the GSSE recommends awarding students 1 ECTS credit for every 56 hours spend on teaching responsibilities.

PhD students can register training activities and the preliminary number of credits under the tab ‘Portfolio’ in Hora Finita. The primary supervisor will subsequently receive an automatic notification from Hora Finita, requesting him or her to check, correct, and approve the activities and credits.

MASTERING YOUR PHD COURSE
Mastering Your PhD is a student-driven four-year course, which is designed to empower PhD students and help minimise the many typical problems and obstacles that can arise while earning a doctoral degree. Mastering Your PhD is not a traditional course but a progressive mentoring trajectory and peer support measure in one that is offered to all new PhD students.
PhD students follow this six-module course together with a mentor and small group of fellow PhD students from all over FSE (starting when they are about 1-3 months into their PhD). The mentor is a member of the FSE staff and an experienced scientist and advisor. During the course, the mentor will not cover the specific details of any particular research topic, but rather support PhD students through the process of earning their PhDs.

Each of the six modules is tailored to a specific phase of a PhD project and the problems, challenges and issues PhD students generally encounter. Topics that are covered include project and time management, motivation, expectation management, cultural differences, the go/no-go meeting, and career planning and development.

In addition to a number of fixed topics per module, group members are free to bring topics of their own to the table or to schedule additional meetings. The sessions are interactive and all matters discussed are confidential, enabling participants to express themselves freely about issues that are possibly not easy to discuss with lab mates or supervisors. Additionally, to ensure everyone is able to speak freely and to minimize potential conflicts of interest, each group’s mentor is from a different research institute than the students.

In total, the amount of time spent following this course is about one week in four years. The Graduate School invites new PhD students to register for Mastering Your PhD via a formal invitation from the director/directress of the Graduate School.

**INTRODUCTORY ESSAY**

The Introductory Essay (6-8 credits) outlines the PhD student’s vision of the research project and includes a detailed description of the research plan. The Introductory Essay should be completed before the six-month Result and Development interview, since it is the ideal forum for discussing the project with the supervisors. There are no fixed rules for the structure and contents of the essay, but most essays typically include a literature review, a description of the research questions to be addressed, and a detailed project plan. The set-up of the Introductory Essay should be discussed with the supervisors in advance.
Writing an Introductory Essay is a training exercise that has several tangible benefits for the PhD student. First, it offers the opportunity to undertake a thorough, systematic review of the literature on the research topic. The content of this document may eventually be published as part of a review article (for example), or it may form the basis for the introductory chapter of the thesis. Secondly, the essay is an exercise in writing scientific, academic English, which can help the PhD student gain confidence or serve as motivation to take a writing skills course if needed. Finally, the Introductory Essay may help greatly with project planning and can be useful during progress meetings.

Upon completion, the PhD student should upload a copy of the essay to Hora Finita, under ‘Courses’. The supervisor will subsequently be notified to confirm and approve the credits.

In some cases, supervisors may deem it unnecessary or inadvisable for the PhD student to write an Introductory Essay. An obvious example may be a PhD student who has obtained his or her own PhD funding by writing a project proposal. This can be explained in the TSP.

CAREER DEVELOPMENT
A fair question for a PhD student to ask is what to do after completion of a PhD: remain in academia and aim for a postdoc and (eventually) tenure track position, or seek a career outside academia, such as in Research and Development, government or consultancy?

In preparation for a career after a PhD, the Graduate School organizes annual events that focus on career development. These events, labeled “Your next step...”, typically involve workshops and lectures by experts from the field. PhD students receive invitations to attend these events through the periodical PhD newsletters. The Graduate School website provides an overview of various parties and organizations that are involved in career development for PhD students.

TEACHING
Most PhD students at the GSSE are involved in teaching activities to some degree. For employed PhD students, teaching is one of their obligations: employed PhD students are expected to spend 10% of their working hours on
teaching and/or supervising students. PhD scholarship students are not required to teach; however, they may still choose to gain some experience with teaching in the context of one of our teaching training courses.

**TEACHING TRAINING**

The GSSE offers several teaching training courses aimed at helping PhD students prepare and reflect on their teaching while they are on the job. The courses are highly recommended to all PhD students who teach. Please note that these classes can only be followed while ‘on the job’ as practical feedback is an essential aspect of the training.

**2.4 INDIVIDUAL TRAINING BUDGET**

Most PhD students who are registered members of the GSSE will receive an Individual Training Budget (ITB) of €2,700 for a PhD project lasting four years. The full budget will be made available at the start of the PhD and can be used by the PhD student for various training activities, like course registration and conference attendance. PhD students who do not follow are training programme at the GSSE of at least 15 ECTS are not eligible for an ITB.

PhD students at GRIP do not receive an ITB. They can however follow the course of the Graduate School of Medical Sciences free of charge. In addition to free courses, GRIP PhD students have an annual budget of EUR 600,00 at their disposal to pay for conference visits and another annual budget of the same size to register for external courses (including GSSE courses). See the GSSE internal website for more information.

Eligible PhD students are given an ITB project code that can be used to pay for course registration fees or in reimbursement forms. For all work-related travel abroad – such as conferences – it is mandatory to apply for the trip in advance through the Claims Portal. It is necessary to apply for travel abroad for insurance purposes. The Claims Portal is further used to request an advance on an ITB (for foreign trips only) or to reclaim costs paid in advance. All applications through the Claims Portal need to be signed off by the primary supervisor.
PhD students can use the Financial Information Tool (FIT) to keep track of their expenditures and ITB balance. If the GSSE support is not sufficient to cover all planned training activities – the ITB is a minimum – other resources will often be available within the institute or research group. Use of these resources should always be approved by the primary supervisor.

2.5 RESULT AND DEVELOPMENT INTERVIEWS

GOAL OF R&D INTERVIEWS
While PhD students may regularly discuss their progress with their supervisors on an informal, day-to-day basis, additional time is also needed to assess the progress of the project as a whole, to reflect on past performance, and to set targets for the future. That is why all PhD students have Result and Development interviews at set times over the course of their project.

CONTENT OF R&D INTERVIEWS
An R&D interview is a two-way discussion. It comprises a review of the past period, a preview of the coming period, and an assessment. The review involves a discussion between the supervisors and PhD student on the latter’s duties, the results achieved, and his or her development according to their previously made agreements. The PhD student is also asked to give his/her view of the supervision and suggest ways to improve it. During the review, agreements are made about new results to be achieved and future developments.

PREPARING FOR AN R&D INTERVIEW
R&D interviews always involve the primary supervisor and the PhD student. In addition, either the supervisor or the PhD student may invite additional parties, such as other supervisors, the PhD coordinator of the institute, or a representative from HR. A good R&D interview demands preparation on the part of both the supervisors and the PhD student. Prior to the interview, the PhD student completes the sections of the R&D interview form where his/her input is required. These sections comprise a description of the results achieved, developments in the period under discussion, and feedback to the supervisors. It is important to address problems, suggest solutions, and consider both positive and negative issues in the discussion. Once completed, the PhD student submits the interview form (in Hora Finita) to the supervisors; the supervisors will then use it both during and in preparation for the interview.
After the interview, when all parties have agreed on the content, the complete and signed R&D interview report form must be uploaded to Hora Finita by the primary supervisor. The report form is then accessible to both the PhD student and supervisors at all times and can be used to prepare for the next R&D interview.

FREQUENCY OF R&D INTERVIEWS
R&D interviews are scheduled to take place at set times over the course of each PhD project: six months, nine months, two years and three years. A fourth year interview is recommended and has to take place before a prolongation can be requested. Hora Finita sends timely reminders of upcoming interviews to the supervisors and PhD student. It is up to the supervisors and PhD student to subsequently make the appropriate arrangements and preparations (see the paragraph on preparing for an R&D interview).

At the nine-month R&D interview (also known as the ‘go/no-go’ interview), a decision will be made by the supervisors about whether to continue the PhD project or not. If the judgment is negative, the project will be terminated within three months. In view of the importance of this interview, the six-month interview should be used to give a prognosis for the outcome of the go/no-go interview. If this prognosis is negative, the supervisors should also give a clear-cut indication of the measures to be taken by the PhD student in order to remedy deficiencies.

The later interviews (after two and three years) will increasingly focus on finishing the dissertation and may cover such topics as scheduling publications, planning lab and conference visits, the thesis outline, and career prospects.
3. DELAYS AND PROJECT EXTENSION

3.1 TYPES OF DELAYS

PROLONGED ABSENCE
As good working practice, PhD students should always inform their supervisors if they are unable to attend work. This includes absence due to holidays, illness, and personal or family emergencies.

Prolonged absence can have an impact on the timely completion of the thesis, as well as on legal matters like residence permits. It is therefore important that extenuating circumstances are always discussed and documented in good time. Prolonged absence from work which will (likely) influence the timely completion of the thesis should be discussed during R&D interviews and documented in the R&D form. It is imperative that it is documented at the time of occurrence and not retroactively. When necessary, an additional R&D interview should be scheduled to discuss and report the circumstances, including agreements on the course of action to remedy the delay. This documentation will serve as the justification for a possible project extension.

PREGNANCY AND MATERNITY LEAVE
Pregnancy and maternity leave both constitute permissible absences. They also frequently serve as justification for the extension of a PhD project. This policy extends to both employed and bursary PhD students. Pregnant women are entitled to a total of 16 weeks of leave.

PART-TIME CONTRACTS AND SABBATICALS
For various personal and professional reasons, it may be deemed necessary for employed PhD students to split their time between PhD work and other tasks on a formalized basis. For example, it may be possible to arrange a contract for 80%, meaning effectively that thesis work is scheduled for 4 out of 5 days per working week. This should always be discussed with the supervisors and the HR department.

OTHER (PROJECT-RELATED) DELAY
Some project-related circumstances may lead to uncontrollable or unforeseeable delays in progress, which may necessitate a project extension. Such delays may include accidents during field work, broken or vandalized equipment (or loss of samples or data in the course of such an accident), absence or death of a
supervisor, lack of access to experimental animal subjects due to facility problems, etc. Such circumstances should be discussed and reported during R&D interviews.

3.2 APPLYING FOR AN EXTENSION

STANDARD PROCEDURE
For most types of delays, a request for an extension must be made between 6 to 3 months before the original scheduled project end. The reason for this is that an extension is, in principle, only given if the PhD student in question needs the extension to complete his/her thesis and it is expected that the thesis can be completed within the time of the extension. The maximum duration of a project extension is in principle six months, but may be longer in the case of long term illness.

If a PhD student’s supervisors decide it is reasonable to request an extension, they need to inform the director of their research institute. The primary supervisor will concisely explain the need for the extension, describe the remaining work (including a detailed schedule) and, most importantly, state the feasibility of producing a dissertation by the project’s new end date. If the institute director agrees with the proposal, he or she submits the extension request on behalf of the PhD student and supervisors. The GSSE director is responsible for deciding if extension requests are honoured.

PROCEDURE IN CASE OF PREGNANCY OR PART-TIME CONTRACT
There are two cases in which PhD students do not have to wait until approximating the end of their contract before receiving an extension, namely in the case of pregnancy leave or when they have arranged to start working part-time (and arranged to lengthen the project). To process such extensions, the GSSE needs to receive certain documents. Please consult our website for more information.

EXTENSION AFTER THESIS SUBMISSION
In limited cases, PhD students may apply for an extension after the thesis has been completed; namely when the extension is needed to cover the period between the submission of the manuscript and the date of defence, which typically takes around 3 to 4 months. This extension is in principle only
granted to non-EU PhD students who need it in order to be able to stay in the Netherlands until the date of their defence.

COSTS OF AN EXTENSION
FSE provides resources for extensions in case of long-term illness, pregnancy leave, or paternal leave. In other situations, the supervisors (or research institute) are obligated to provide the required resources for the extension period.
4. COMPLETING AND DEFENDING A THESIS

PhD students must aim to finish their thesis and have it submitted to the Assessment Committee within four years. Once a manuscript is ready, a number of steps need to be taken first before the PhD student is able to defend the thesis. This process is outlined in the University of Groningen PhD regulations, which can be found on the website of the Graduate School. These regulations are applicable to all PhD students at the University.

CONTACT PERSONS FOR DEFENCE RELATED ISSUES
The faculty beadle is responsible for all PhD defence related issues at FSE and is the first point of inquiry for PhD students and staff in defence-related matters, also where Hora Finita is concerned. The faculty beadle works at the GSSE and ensures that defence preparations run smoothly and that the necessary steps are processed on time. The faculty beadle cannot schedule a date for a defence. This is handled by a different department external to FSE: the PhD degree registration office. The PhD degree registration office is responsible for scheduling all PhD defence ceremonies at the University. The PhD degree registration office is also responsible for approving the title page of the thesis before the PhD student can send the manuscript off for printing.

Contact details of the faculty beadle can be found on the Graduate School website. The PhD degree registration office can be contacted via e-mail: promoveren@rug.nl, or by telephone (+31)050 363 5276. Full contact details for the PhD degree registration office can be found on the Graduate School website.

4.1 FROM MANUSCRIPT SUBMISSION TO DEFENCE

TIMING
The preparations for a PhD defence take a minimum of 3.5 months to complete. The duration further depends on a number of factors, including time of year and the PhD student’s own preference. No PhD defences are scheduled during the summer break (most of July and August) and the two weeks of the Christmas holidays. PhD students are therefore advised to prepare for the procedure well ahead of time and to work in close co-operation with the supervisors.

REQUIRED STEPS
The procedure leading up to a PhD defence and the parties involved in the procedure are described in the flowchart. Most of these steps will be taken via
Your manuscript is finished
Upload manuscript to Hora Finita
Call PhD degree registration office to set preliminary date
Upload title page and propositions to Hora Finita; send copy of passport
Upload thesis information to Hora Finita

Turn manuscript into thesis, print and distribute copies
Turn manuscript into thesis, send to: PhD reg. office; library etc.

All (co)supervisors approve manuscript in Hora Finita
First supervisor suggests members of assessment committee
Faculty beadle installs assessment committee
Assessment committee approves manuscript
PhD registration office approves title page
Assessment committee approves propositions
All approvals at least 2 months before the defence
Upload at least 5 weeks before the defence

To PhD registration office at least 2 weeks before the defence
Defence, months before the defence
Set date at least 5/2

End
Hora Finita. Hora Finita informs each of these parties through automatic e-mail notifications when (online) actions are required. Each step is described in more detail below.

1. **THE MANUSCRIPT IS FINISHED**
Preparations for a defence start with the completion of the manuscript. The PhD student discusses with the supervisors whether they agree the manuscript is of sufficient quality for obtaining a doctoral degree. When all supervisors agree the manuscript is ready, the PhD student uploads a copy of the manuscript to Hora Finita. From this moment on, all steps leading up to a thesis defence will be guided by Hora Finita through automatic e-mail notifications.

2. **UPLOAD MANUSCRIPT TO HORA FINITA**
Once a copy of the manuscript is uploaded, all supervisors receive an e-mail notification to approve the manuscript in Hora Finita. In addition, the primary supervisor is asked to upload names for possible members of the Assessment Committee. The faculty beadle checks whether the suggested composition of the Assessment Committee is in accordance with the PhD regulations and, if this is the case, invites the members of the Assessment Committee via Hora Finita. The invitation to the members of the Assessment Committee includes a link to the digital copy of the uploaded manuscript. A new or rectified version of the manuscript can only be uploaded once all the members of the Assessment Committee have provided their assessment of the initial version via Hora Finita.

3. **CALL PHD DEGREE REGISTRATION OFFICE TO SET PRELIMINARY DATE FOR DEFENCE**
After the faculty beadle has invited the Assessment Committee, Hora Finita informs the PhD student that the PhD degree registration office can be contacted to set a preliminary date for the defence. Once the PhD student contacts the PhD registration office, the date for the defence cannot be set earlier than 3.5 months ahead. This is to allow sufficient time for all the steps that need to be taken in the meantime, such as the Assessment Committee’s assessment, turning the manuscript into a thesis and having the thesis volume printed. Once the members of the Assessment Committee have given their approval of the manuscript in Hora Finita, the preliminary date automatically becomes the definitive date of the defence.
The Assessment Committee has six weeks to approve the manuscript. The Assessment Committee’s judgement in Hora Finita is confidential. Neither the PhD student nor the supervisors have access to the assessments. The members of the Assessment Committee are also asked to register possible corrections or remarks for the PhD student in Hora Finita. Once the full Assessment Committee has given its consent, the PhD student and supervisors will be automatically notified. This notification includes the corrections and remarks by the committee members.

4. UPLOAD TITLE PAGE AND PROPOSITIONS TO HORA FINITA

After a tentative date of the defence is set, the PhD student has to upload the title page and propositions (stellingen) to Hora Finita. The title page and propositions need to be approved at least two months before the defence date.

The title page must conform to the requirements of the University of Groningen (a template can be found in Hora Finita or in appendix 7 of the PhD Regulations) and needs to be approved in Hora Finita by the PhD degree registration office. Together with the title page, the PhD student is also required to upload a copy of his/her passport. The PhD degree registration office uses this copy to verify the personal details for the title page and the PhD degree certificate. The PhD degree registration office will not keep a copy of the passport on file once the personal details have been verified.

The supervisors must approve the propositions in Hora Finita. The writing of propositions to accompany a PhD thesis is a longstanding tradition that is unique to Dutch universities. They must all be statements that can be defended in debate.

The current practice is for a PhD student to write a number of propositions (6 is the minimum; 8 to 14 is common) and print them on an insert included in the printed thesis volume. These may be related to topics investigated in the thesis and a few may address topics of general or societal interest. It is fairly common that a PhD student is asked a question about the propositions during the defence ceremony.

5. UPLOAD THESIS INFORMATION TO HORA FINITA

Once the Assessment Committee has granted its approval of the manuscript, the PhD student will be notified by Hora Finita to upload thesis information for
publicity purposes. This information consists of two brief, popular abstracts (Dutch and English) of about 250 words for the Communication Office and the University of Groningen Library. The PhD student will also be requested to upload an academic summary in Dutch (this summary is also part of the thesis volume) and is intended for the Communication Office to obtain additional background information on the research.

All thesis information must be uploaded to Hora Finita at least 5 weeks prior to the date of the defence.

6. TURN MANUSCRIPT INTO THESIS VOLUME
Once the PhD student has received the approval from the Assessment Committee through Hora Finita, and the thesis title page and propositions have also been approved in Hora Finita, the manuscript can be turned into a thesis volume.

In addition to key elements, such as the title page and the main chapters, a Dutch thesis volume typically contains a number of additional elements. These are:

COLOPHON AND ACKNOWLEDGEMENT OF FUNDING
An inside page at the start of the thesis (colophon) describes where the work was done and who supported it. Funding bodies and granting agencies should be mentioned here. It is common to include logos of the University and associated research institutes. Several institutes have specific rules about the way the institute should be mentioned.

DUTCH SUMMARY AND THESIS ABSTRACT
A Dutch and English summary must be included in the printed thesis volume. Thesis summaries are an important aspect of the thesis, because they are often among the most widely-read thesis sections. If the PhD student’s native language is not English, a summary in his or her own language is also common.

ACKNOWLEDGEMENTS/DANKWOORD
Acknowledgements - thanking the people who helped during the PhD years - are a vital element of every thesis volume. Most PhD students choose to include as many acknowledgements as they deem appropriate. Friends and family are usually also acknowledged here.
ISBN NUMBER
The PhD student generally applies for an ISBN number (International Standard Book Number) via the University library’s website. It is mandatory to request an ISBN number for certain research institutes of FSE – the relevant PhD coordinator should be contacted about this. Some research institutes also attribute a PhD thesis number to all dissertations produced within their institute; here, too, the PhD coordinator is the person to contact.

7. PRINTING AND DISTRIBUTING OF COPIES
PhD theses are typically printed in paperback and are widely distributed. The number of copies printed is largely a matter of taste and tradition (of the research group). Most PhD students will produce between 100 and 300. For instance, it is customary for PhD students to distribute thesis copies to colleagues at the University and abroad. Thesis printing costs are covered in large part by the University and FSE. More information on the reimbursement of printing costs and about thesis layout and printing is provided in chapter 4.2 and on the Graduate School website.

The printed thesis volumes, including the propositions, must be distributed to the following parties at least three weeks before the defence ceremony:
• the PhD degree registration office: 4 copies
• the Graduate School of Science and Engineering: 1 copy
• the members of the PhD Examining Committee

Additionally, a digital copy of the thesis volume must be uploaded to Hora Finita at least three weeks before the defence ceremony. This digital copy is for further use by the University of Groningen Library. The University of Groningen Library will make the electronic version of the thesis volume available through the University of Groningen Repository. If a commercial edition of the PhD thesis is also being published, a copy of an agreement with the publisher must be submitted to the Library, showing that the publisher consents to the publication of the digital version. When submitting the thesis to the Library, it is also possible to have (parts of) it published under embargo. This should always be discussed in advance with the supervisors.
8. CEREMONY
Once copies of the thesis volume have been distributed and a copy has been uploaded to Hora Finita, the PhD student can prepare for the defence ceremony. The defence is a public ceremony that is typically held in the Aula of the Academy Building (Broerstraat 5) according to set rules and protocols. The defence takes place in the presence of the PhD Examining Committee (promotiecommissie).

The primary supervisor is asked to upload the names of the members of the PhD Examining Committee to Hora Finita. This should be done preferably one month before the date of the defence. The faculty beadle checks the proposed composition of the PhD Examining Committee and, when in accordance with the PhD regulations, invites the members through Hora Finita. The PhD Examining Committee consists of a minimum of five members. A maximum of two members can be University Readers/Associate Professors or Lecturers/Assistant Professors with a PhD. The rest of the committee members must be full professors. The PhD Examining Committee is chaired by the rector; however, in practice, the institute director generally stands in for the rector. The supervisors are also present at the defence ceremony but are no official members of the PhD Examining Committee.

After the ceremony is opened by the chair of the PhD Examining Committee, the PhD student is questioned for 45 minutes by the members of the committee. The questions are not made public in advance. All members of the committee may ask questions at the ceremony, although the chair typically refrains from doing so. The supervisors usually also do not ask questions, but may if they want to.

The ceremony concludes with the conferral of a doctoral diploma (‘bula promovendi’) and, if the PhD student has completed his or her training programme, a training certificate. It is customary for the primary supervisor to award the degree, first stating a few congratulatory words in the form of a laudation (‘laudatio’).

PARANYMPHS
The PhD student is typically assisted by two ceremonial attendants called paranymphs (paranimfen). The paranymphs support the PhD student prior to and during the ceremony. It is, for instance, common for the paranymphs to help
distribute the printed thesis volumes, plan the festivities, and generally assist
the PhD student on the day of the ceremony.

**CUM LAUDE DISTINCTION**
The top 5 to 10% of PhD theses each year may be eligible to receive the
distinction of cum laude (with honours) at the defence ceremony. The procedure
for gaining the cum laude distinction is described in chapter 9 of the University
of Groningen PhD Regulations. The PhD student will not know whether he or she
has been nominated for the cum laude distinction until it is ultimately awarded.

**4.2 FINANCIAL SUPPORT, THESIS PRINTING COSTS**

All PhD students who defend a PhD thesis at FSE can receive reimbursement for
the printing costs of their PhD thesis, with the exception of KVI-Cart and FOM
PhD students (who receive a reimbursement from KVI-Cart or FOM). The amount
reimbursed by the University Library and the Graduate School is a maximum of €
1600 in total.

The University Library reimburses € 750. Once a copy of the thesis has been
uploaded and processed in Hora Finita by the University Library, the PhD student
will receive an e-mail through Hora Finita with a link to the reimbursement form.
The Graduate School reimburses the remainder of the actual printing costs up to
a maximum of € 850. The reimbursement form from the Graduate School can be
found online and must be signed by the PhD student and the primary supervisor.
It is then submitted to the Graduate School together with the original bill, proof
of payment, and a copy of the thesis volume (only if this has not yet been
submitted).